

5041  
D1  
1. (Twice Amended) An etching agent for copper comprising an aqueous solution containing potassium hydrogen peroxomonosulfate, a concentration of said potassium hydrogen peroxomonosulfate falling within a range of about 10.01 % to about 23.31 % by weight of the etching agent.

### REMARKS

#### Rejection of Claims 1 and 2 under Kubotera under §103(a)

In the Office Action, claims 1 and 2 stand rejected under 35 U.S.C. §103(a) as being anticipated by Condra *et al* and Kubotera *et al*. Applicants have amended independent Claim 1, and submit that Claims 1 and 2 are patentable over Condra and Kubotera.

The Examiner states that Condra, in conjunction with Kubotera, makes obvious the arrangement recited in Claim 1. Kubotera teaches an etching reagent that comprises an oxidizing agent used in a concentration of 0.01 % to a maximum of 10 % by weight. Amended Claim 1 claims an oxidizing agent concentration of a minimum of greater than 10 % to about 23.31 %. Such a concentration is desirable, as it results in a highly uniform amount of side-etching. This range is further supported in the application, as the maximum potassium hydrogen peroxomonosulfate concentration is about 2.0 mol/L, which is about 23.31 % by weight of potassium hydrogen peroxomonosulfate. Thus, Kubotera does not anticipate or disclose the range of potassium hydrogen peroxomonosulfate concentration recited in Claim 1.

Thus, neither Kubotera nor Condra, alone or in combination, anticipate or suggest the arrangement of amended Claim 1. Applicants submit that amended Claim 1 overcomes the §103(a) rejection. Applicants further respectfully submit that Claim 2 is dependent on Claim 1, and therefore also overcomes the §103(a) rejection.

### Conclusion

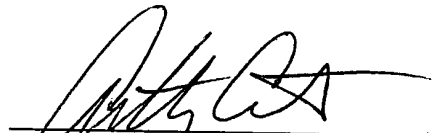
In view of the amendments and arguments above, Applicants respectfully submit that all of the pending claims are in condition for allowance and seek an early allowance thereof. If for any reason the Examiner is unable

to allow the application in the next Office Action and believes that a telephone interview would be helpful to resolve any remaining issues, he is respectfully requested to contact the undersigned.

**BEST AVAILABLE COPY**

BRINKS HOFER GILSON & LIONE  
P.O. BOX 10395  
CHICAGO, ILLINOIS 60610  
(312) 321-4200

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Anthony P. Curtis', written over a horizontal line.

Anthony P. Curtis, Ph.D.  
Registration No. 46,193  
Agent for Applicant

**APPENDIX A**  
**Serial No. 09/595,415**  
**Etching Reagent and Method for Manufacturing Electronic Device**  
**Substrate and Electronic Device**  
**Seki et al.**

**In the Claims**

**BEST AVAILABLE COPY**

Please amend Claim 1 as follows:

1. (Twice Amended) An etching agent for copper comprising an aqueous solution containing potassium hydrogen peroxomonosulfate, a concentration of said potassium hydrogen peroxomonosulfate falling within a range of about ~~0.08 mol/L~~ to about ~~2.0 mol/L~~ 10.01% to about 23.31% by weight of the etching agent.